WHAT IS CLAIMED IS:

1. A valve apparatus having a longitudinal axis therethrough, comprising:

a valve seat member that comprises a hollow bore and a first frustoconical contact surface;

a valve closure member that comprises a body and a second frustoconical contact surface that is adapted to seal against the first frustoconical contact surface, the valve closure member being movable along the longitudinal axis of the valve apparatus;

a fluid flow path through the bore of the valve seat member and between the valve seat member and the valve closure member, the fluid flow path being closed when the second frustoconical contact surface is in contact with the first frustoconical contact surface; and

a forward screening member that is attached to at least one of the valve closure member or the valve seat member and that screens particles and excludes them from fluid passing in a forward direction into the region between the valve seat member and the valve closure member, when the valve closure member approaches the valve seat member.

2. The valve apparatus of claim 1, wherein the forward screening member comprises a plug that is attached to the valve closure member and that extends into the bore of the valve seat member when the valve is closed.

3. The valve apparatus of claim 2, wherein the valve seat member comprises a cylindrical inner wall, and a screening gap exists between the cylindrical inner wall and the plug and the screening gap is small enough to prevent passage of particles of a selected size from passing through the fluid flow path when the plug extends into the bore of the valve seat member.

4. The valve apparatus of claim 3, wherein the plug comprises a first section having a circular bottom of a first diameter and a second section having a circular bottom of second diameter that is greater than the first diameter, and wherein the screening gap between the second section and the cylindrical inner wall is small enough to prevent particles of a selected size from passing through the fluid flow path when the second cylindrical section extends into the bore of the valve seat member.

5. The valve apparatus of claim 1, wherein at least one of the valve closure member and the valve seat member comprises a resilient insert located near the inner perimeter of a frustoconical contact surface.

6. The valve apparatus of claim 5, wherein the resilient insert is attached to the valve closure member and extends further toward the first frustoconical contact surface than the second frustoconical contact surface does.

7. The valve apparatus of claim 1, wherein the forward screening member comprises a forward screening insert that is near the inner perimeter of either the first or second frustoconical contact surface, and wherein a screening gap exists between the forward screening insert and the opposing frustoconical contact surface, and the screening gap becomes small enough to prevent particles of a selected size from passing into the valve assembly before the valve closes far enough to trap particles between the frustoconical contact surfaces.

8. The valve apparatus of claim 7, wherein the forward screening insert is a resilient screening insert.

9. The valve apparatus of claim 7, wherein the forward screening member comprises a plurality of forward screening inserts near the inner perimeter of either the first or second or both frustoconical contact surfaces.

10. The valve apparatus of claim 8, wherein the resilient forward screening insert is attached to the valve seat member and contacts the second frustoconical contact surface when the valve closure member approaches the valve seat member.

11. The valve apparatus of claim 8, wherein the forward screening insert is attached to the valve closure member.

12. The valve apparatus of claim 11, wherein the forward screening insert extends into the bore of the valve seat member when the valve is closed.

13. The valve apparatus of claim 9, wherein at least one of the forward screening inserts extends into the bore of the valve seat member when the valve is closed.

14. A valve apparatus having a longitudinal axis therethrough, comprising:

a valve seat member that comprises a hollow bore and a first frustoconical contact surface;

a valve closure member that comprises a body and a second frustoconical contact surface that is adapted to seal against the first frustoconical contact surface, the valve closure member being movable along the longitudinal axis of the valve apparatus;

a fluid flow path through the bore of the valve seat member and between the valve seat member and the valve closure member, the fluid flow path being closed when the second frustoconical contact surface is in contact with the first frustoconical contact surface; and

a reverse screening member that is attached to at least one of the valve closure member or the valve seat member and that screens particles from fluid passing through the fluid flow path in a reverse direction when the valve closure member approaches the valve seat member; and

a means to delay the valve closure while the reverse screening member is within a range of screening distances from the opposing frustoconical contact surface.

15. The valve apparatus of claim 14, wherein the means to delay valve closure is a valve positioning mechanism.

16. The valve apparatus of claim 14, wherein the means to delay valve closure is a resilient screening insert which allows the passage of screened fluid until differential pressure across the valve deforms the insert to seal the valve.

17. The valve apparatus of claim 16, wherein the resilient insert traps proppant from fluid in reverse flow into the valve, and the proppant holds the valve open until differential pressure deforms the resilient insert to effect a seal.

18. The valve apparatus of claim 17, wherein a screening gap is formed between the resilient insert and the opposing frustoconical contacting surface, and said screening gap is greater at the outer perimeter than at a point radially inward on the resilient screening insert.

19. The valve apparatus of claim 16, wherein resilient screening insert comprises at least one protrusion from its contacting surface, and the protrusions create a screening gap between the insert and the opposing frustoconical contacting surface when the valve closure member approaches the valve seat member.

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20. The valve apparatus of claim 19, wherein the protrusions are of resilient material and deform under forces caused by differential pressure to allow the screening gap to close.

21. The valve apparatus of claim 19, wherein the protrusions are of non-resilient material, and the insert deforms over the protrusions to seal the valve.

22. The valve apparatus of claim 16, wherein the insert comprises a non-resilient element around the outer perimeter of the insert contacting surface, and said element comprises at least one protrusion arising from the insert contact surface.

23. The valve apparatus of claim 22, wherein the protrusions hold the insert off the opposing frustoconical contacting surface to create a screening gap until differential pressure distorts the resilient insert to effect a seal with the opposing frustoconical contact surface.

24. The valve apparatus of claim 16, wherein the frustoconical contact surface opposing the resilient screening insert comprises at least one protrusion which holds the insert off the frustoconical contact surface until differential pressure distorts the insert to effect a seal.

25. The valve apparatus of claim 16, wherein the screening gap is produced by a combination of protrusions on the insert and on the opposing frustoconical contact surface.

26. The valve apparatus of claim 14, wherein the valve closure member further comprises a bypass fluid flow path between the resilient insert and the body of the valve closure member, the bypass fluid flow path having a size small enough to prevent particles of a selected size from passing therethrough.

27. The valve apparatus of claim 26, wherein the bypass fluid flow path is created by at least one protrusion on the valve closure member body that spaces the resilient insert away from the rest of the valve closure member.

28. The valve apparatus of claim 26, wherein the bypass fluid flow path is created by at least one protrusion on the resilient insert that spaces the valve closure member body away from the rest of the resilient insert.

29. The valve apparatus of claim 26, wherein the bypass fluid flow path is created by at least one protrusion on each of the resilient insert and the valve closure member body.

30. A valve apparatus having a longitudinal axis therethrough, comprising:

a valve seat member that comprises a hollow bore and a first frustoconical contact surface;

a valve closure member that comprises a body and a second frustoconical contact surface that is adapted to seal against the first frustoconical contact surface, the valve closure member being movable along the longitudinal axis of the valve apparatus;

a fluid flow path through the bore of the valve seat member and between the valve seat member and the valve closure member, the fluid flow path being closed when the second frustoconical contact surface is sealed against the first frustoconical contact surface; and

a screening member that is attached to the valve closure member that screens foreign objects from fluid passing into the valve apparatus.

31. The valve apparatus of claim 30, wherein the screening member comprises a plug having a circular cross section bottom that extends into the bore of the valve seat member but does not extend past the bottom of the valve seat member.

32. The valve apparatus of claim 31, wherein the valve seat member comprises a cylindrical inner wall, and a plug gap exists between the cylindrical inner wall and the circular bottom of the plug, and the plug gap is small enough to prevent passage of foreign objects.

33. The valve apparatus of claim 32, wherein the plug comprises a plurality of radial protrusions that align the plug relative to the cylindrical inner wall of the valve seat member.

34. The valve apparatus of claim 33, wherein the radial protrusions are sized and spaced to substantially equalize the plug gap around the circumference of the plug.

35. The valve apparatus of claim 30, wherein the screening member comprises a plug that extends through the bore of the valve seat member past the bottom of the valve seat member, and the portion of the plug which can extend below the valve seat member has a cylindrical shape.

36. The valve apparatus of claim 33, wherein the valve seat member comprises a cylindrical inner wall, and a plug gap exists between the cylindrical inner wall and

the cylindrical portion of the plug, and the plug gap is small enough to prevent passage of foreign objects.

37. The valve apparatus of claim 36, wherein the plug comprises a plurality of radial protrusions that align the plug relative to the cylindrical inner wall of the valve seat member.

38. The valve apparatus of claim 37, wherein the radial protrusions are sized and spaced to substantially equalize the plug gap around the circumference of the plug.